



### Features

- Un-cooled laser diode with multi-quantum-well structure
- High temperature operation without active cooling
- Hermetically sealed active component
- Built-in InGaAs monitor photodiode
- Complies with Telcordia Technologies GR-468-CORE
- Single frequency operation with high SMSR
- TOSA
- FC/ST/SC receptacle package with 2-hole flange
- Fiber pigtailed with FC/ST/SC/MU/LC connector
- Design for 2.5Gbps high speed optic networks
- RoHS Compliant available

### Absolute Maximum Ratings (Tc=25°C)

Parameter	Symbol	Rating	Unit
Fiber Output Power L/M/H/2	P <sub>f</sub>	1(L)/1.5(M)/2.5(H)/3(2)	mW
LD Reverse Voltage	V <sub>RLD</sub>	2	V
PD Reverse Voltage	V <sub>RPD</sub>	10	V
PD Forward Current	I <sub>FPD</sub>	2	mA
Operating Temperature	T <sub>opr</sub>	0 ~ 70	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ 85	°C

(All optical data refer to a coupled 9/125 μm SM fiber)

### Optical and Electrical Characteristics (Tc=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Threshold Current	I <sub>th</sub>	-	10	15	mA	CW
Optical Output Power	P <sub>f</sub>	0.2 0.5 1 2	- - 1.6 2.5	0.5 1 - -	mW	CW, I <sub>th</sub> +20mA, kink free
Peak Wavelength	λ	1295	1310	1325	nm	Note 3
Side mode Suppression	S <sub>r</sub>	30	35	-	dB	CW, P <sub>f</sub> = P <sub>f</sub> (Min), 0 ~ 70°C
Forward Voltage	V <sub>F</sub>	-	1.2	1.5	V	CW, P <sub>f</sub> = P <sub>f</sub> (Min)
Rise / Fall Time	T <sub>r</sub> / T <sub>f</sub>	-	-	150	ps	I <sub>bias</sub> =I <sub>th</sub> , 20~80% Lead length=1mm
Tracking Error	ΔP <sub>f</sub> /P <sub>f</sub>	-1.5	-	1.5	dB	APC, 0 ~ 70°C
PD Monitor Current	I <sub>m</sub>	100	-	-	μA	CW, P <sub>f</sub> = P <sub>f</sub> (Min), V <sub>RPD</sub> = 2V
PD Dark Current	I <sub>dark</sub>	-	-	0.1	μA	V <sub>RPD</sub> = 5V
PD Capacitance	C <sub>t</sub>	-	6	15	pF	V <sub>RPD</sub> = 5V, f = 1MHz

**Note:**

1. Pin assignment can be customized.
2. Specifications subject to change without notice.
3. Selected wavelength is available for WDM application.

**Pin Assignment**



- Pin 1 : Laser Cathode
- Pin 2 : Laser Anode and Case Gnd
- Pin 3 : Monitor Diode Anode
- Pin 4 : Monitor Diode Cathode



- Pin 1 : Monitor Diode Anode
- Pin 2 : Laser Anode and Case Gnd
- Pin 3 : Laser Cathode
- Pin 4 : Monitor Diode Cathode



- Pin 1 : Laser Anode and Monitor Diode Cathode
- Pin 2 : Case Gnd
- Pin 3 : Laser Cathode
- Pin 4 : Monitor Diode Anode

**Ordering Information**

**C-13-DFB2.5-XX-SXXXX/XXX-X-XX**

Wavelength  
 13=1310 nm

Package  
 T=TOSA  
 R=Receptacle  
 P=Pigtail

Connector  
 FC/ST/SC/MU/LC/Blank

Fiber Output Power  
 L/M/H/2

Blank=PC Fiber  
 APC=APC Fiber

Flange type (Blank;O;V;K)

Pin Assignment  
 Blank=A Type  
 B=B Type  
 D=D Type

I=Isolator  
 Blank=No Isolator

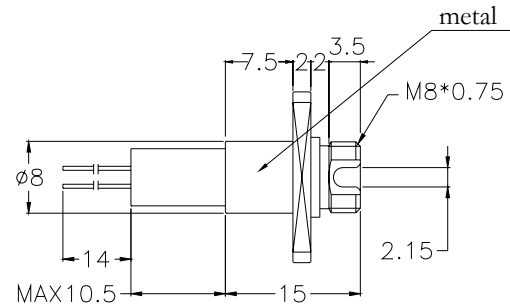
RoHS Compliant  
 Blank/G5/GR  
 Blank = RoHS non-compliant product  
 G5 = RoHS 5/6-compliant product (lead exemption)  
 GR = Full RoHS compliant product (no exemption)

Packaging Dimensions (Units in mm)

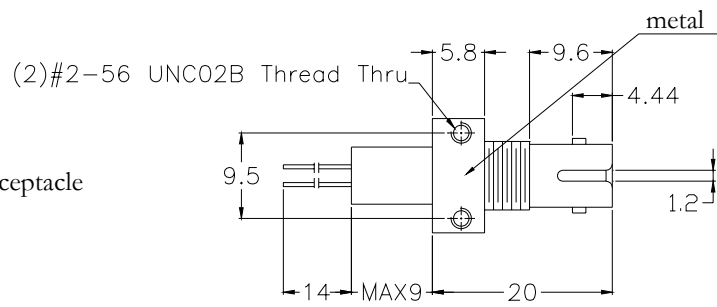
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FC Receptacle



ST Receptacle



SC Receptacle



Packaging Dimensions (Units in mm)

Part Number: C-13-DFB2.5-TX-SSCXX-XX



SC TOSA (L&M Power)  
C-13-DFB2.5-TX-SSCXX-XX



SC TOSA (L&M Power with Isolator)  
C-13-DFB2.5-TX-SSCXI-XX



SC TOSA (H&2 Power)  
C-13-DFB2.5-TX-SSCXX-XX



Packaging Dimensions (Units in mm)

Part Number: C-13-DFB2.5-TX-SLCXX-XX



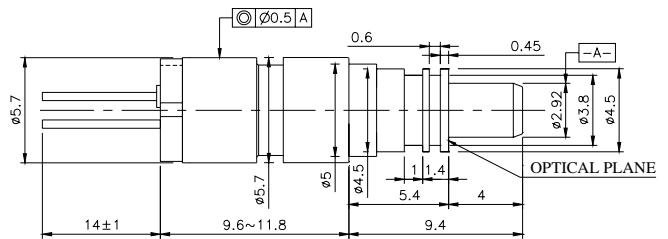
LC TOSA (L&M Power)  
C-13-DFB2.5-TX-SLCX-XX



LC TOSA (L&M Power)  
C-13-DFB2.5-TX-SLCXI-XX



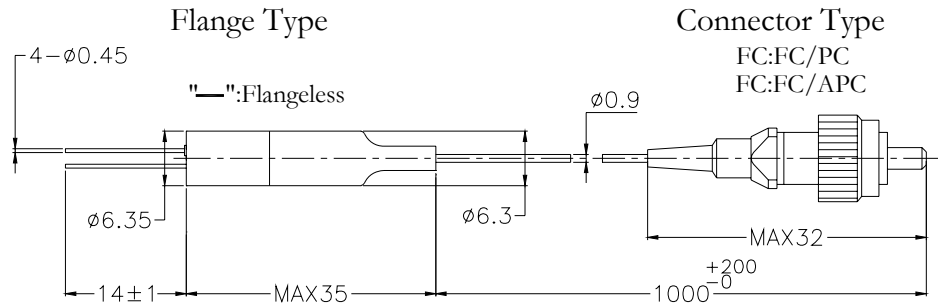
LC TOSA (H&2 Power)  
C-13-DFB2.5-TX-SLCXX-XX



**Packaging Dimensions (Units in mm)**

**Part Number: C-13-DFB2.5-PX-SXXXX/XXX-X-XX**

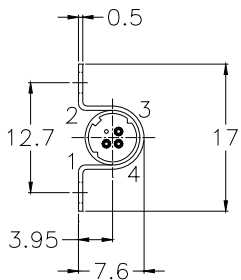
P.C.D.  $2.0 \pm 0.5$



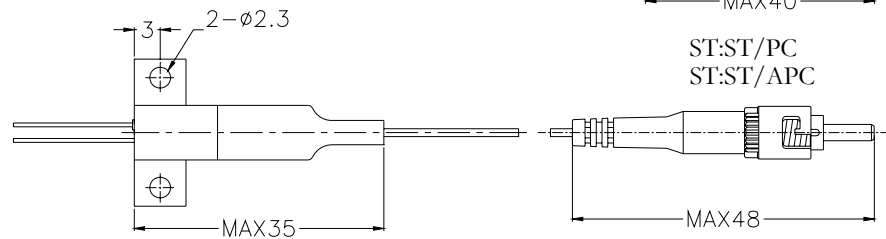
**Connector Type**

FC:FC/PC  
 FC:FC/APC

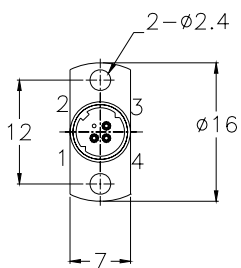
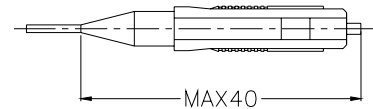
SC:SC/PC  
 SC:SC/APC



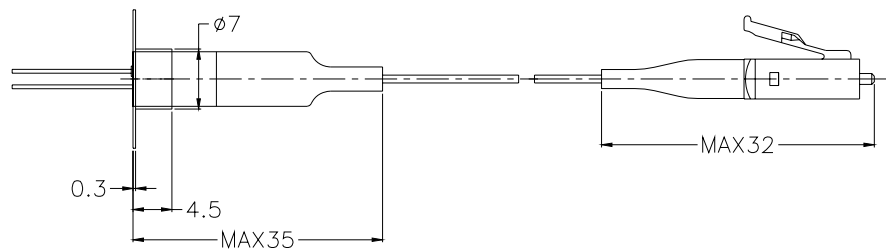
"O": Horizontal (Omega Housing)



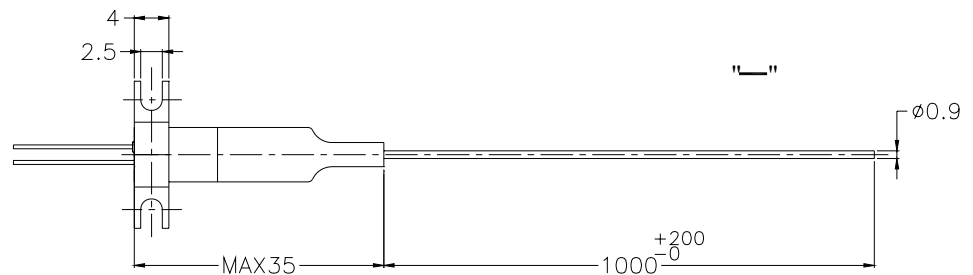
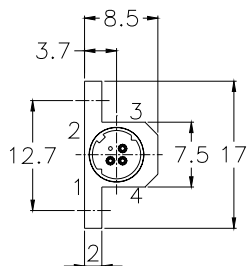
MU:MU Connector



"V": Vertical



"K": Horizontal (KX Housing)



## Warnings

**Handling Precautions:** This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

**Laser Safety:** Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

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